THE VETERINARY RECORD

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Compulsory Notification.

The recently issued Animals (Notification of Disease) Order of 1910 came into force yesterday, and notification of scheduled animal disease is now compulsory upon all veterinary practitioners. The full text of the Order was published in our issue of February 19th, and we now need only remind members of its essential provision. Every veterinary surgeon who, in his private practice, recognises or suspects the existence of rinderpest, pleuro-pneumonia, foot-and-mouth disease, sheep-pox, sheep-scab, swine-fever, anthrax, epizootic lymphangitis, rabies, glanders or farcy in either living or dead animals, must now notify to an inspector of the local authority; and, except in the case of anthrax, sheep-scab, and glanders or farcy, he must also notify the police. A fee of half-a-crown will be paid for notification, and failure to notify will of course render the practitioner liable to prosecution.

Little or no comment followed the issue of the Order, and it may safely be inferred that the innovation is approved by the great majority of the profession. Indeed, its main principle—the placing veterinary surgeons on the same footing as medical men, by compelling them to report all scheduled disease and providing reasonable remuneration for doing so—has been generally recognised as desirable by our members for many years past. Nevertheless, it is well to remind members that the Order is now in force, and must be complied with.

The Traffic in Old Horses.

Next Thursday evening the Central V.S. will discuss this subject, which certainly demands attention from the veterinary profession. At present, it is possible that some members at least feel some doubt upon the whole question. All will admit that any such traffic, not only from the general class of the men engaged in it but from its very nature, requires strict supervision in order to prevent gross cruelty. It is only carried on under official supervision; and we have already published extracts from the press which show the existence of two opinions regarding the efficacy of the precautions now in force against cruelty.

Some public interest in the question has arisen, and there is perhaps no subject in the world regarding which the public mind is more prone to exaggeration than it is in connection with real or alleged cruelty to animals. It is quite possible that the present agitation against the traffic may be based altogether upon exaggeration. On the other hand, though we are reluctant to credit the existence of such an inferno of cruelty as this trade has been represented as being, it must be admitted that the truth may lie somewhere between the two extremes, and that the precautions against cruelty, while not so inefficacious as some humanitarians believe, may leave something to be desired. The independent testimony of a few veterinary surgeons having personal knowledge of the traffic would be valuable just now—much more valuable than any police court evidence regarding individual cases that were never shipped. Discussion of the question by our professional associations is the method likeliest to elicit independent veterinary testimony, and it is well that the Central V.S. has taken the lead.

As a profession we are quite willing not only to sympathise by resolutions with efforts to prevent cruelty, but also to assist with our personal endeavours. But some of us require first to be satisfied regarding the reality of the cruelty.

BARIUM CHLORIDE.

By Henry Gray, M.R.C.V.S., Kensington, W.

Having been a user of barium chloride since its first introduction as a therapeutical agent into modern veterinary medicine, I would like to make a few remarks on its utility in the treatment of some of the abdominal disorders of the horse.

Until a few years ago, I had always introduced barium chloride into the system through the jugular vein, using variable doses, even as much as 30 grains, without noticing any serious results, beyond occasional nausea soon after its administration; when one day being careless, or over confident in consequence of having up to then exceptional luck, I injected somewhat too rapidly 30 grains into the vein of a full sized cart horse suffering from colic. He immeditely became restless, opened his mouth and moved his lower jaw from side to side, pirouetted his eyeballs, fell down, arched his back in a downward direction (hollow-back), gave a few convulsive struggles and died within five minutes. Ever since then I have given it in one or two drachm doses, in a drench sweetened with treacle and perfumed with a small quantity of æther, and have had just as good but perhaps slower results, without any dangerous consequences, as I did when I injected it into the vein.

When given in these doses it is not advisable to repeat it, although in one instance two 2-drachm draughts were given, by mistake, within an hour of one another to a full sized carriage horse, and the only complaint I received next morning was that the animal had passed a barrowload of fæces and had made the loose-box in a filthy mess.

It has been highly recommended in cattle practice by Continental veterinary surgeons, but very few, if any, British practitioners have recorded their experience of it on cattle. Certainly the price of it is not a barrier to its use, as its cost is little—the impure salt about sixpence, and the pure 1/- per lb. and the dose is small.

Barium chloride produces a few similar symptoms during its therapeutical action to those caused by arecoline, eserine, pilocarpine, veratrine, and the intra-thoracic injection of a solution of iodine (in purulent pleurisy cases), viz., an advancing movement, opening the mouth and screwing it from side to side, arching of the croup, raising the tail almost to a vertical direction and emptying of the rectum.

It has been said that neither barium chloride, arecoline, eserine nor pilocarpine given in medicinal doses produce an evacuation of fæces in the healthy horse. Certainly this must be an error or, at least, it has not been my experience. Nearly twenty years ago I made a series of observations on a large stud of carriage horses, and found that after these drugs had been injected the animals advanced in their stalls, slightly arched the croup and loin, raised the tail and emptied the rectum. But I must admit this action was not continued beyond one or at most two evacuations.

Barium chloride was formerly used in human medicine as a deobstruent and anthelmintic, and highly recommended in scrofula and incipient phthisis. It was considered best to administer it in solution. It found a place in the *London Pharmacopœia*. It appears in the *German Pharmacapœia* as Barium chloratum. The dose for man is from ½ to 1½ grains; maximum single dose 3 grains, or 9 grains per diem. It is said to possess cardiac, tonic, and alterative properties; and given in syphilis, scrofula, and glandular swellings. It is a heart tonic; and lessons cardiac pains. The Llangammarch Wells in Wales are noted for their water, which contains sodium, calcium, magnesium and barium chlorides. It contains no sulphates in consequence of the presence of barium. It is suited to heart affections, glandular swellings, skin diseases and rheumatism.

As far back as 1816, Wm. Percival experimented with this drug on glandered horses, giving as much as 1 to 3 drachms in the form of a ball, twice a day, for some time. Needless to say that on reading some of his records one is lead to conclude not a few of his animals died from the effects of the drug. He himself observes "I shall select one other case in which the chloride was given; and it shall be one in which it proved fatal. It will serve to show in what a sudden and unexpected manner death occasionally happens during the exhibition of this poisonous mineral."

This case was kept short of water and then given a fluid ounce of the *Liq. barii chloridi* (I do not know what the strength of this solution was when the experiment was carried out in 1820. Probably it was 1 in 3 of water (?)) in a pailful of water twice a day; the following four days, an ounce and a half of this solution, twice a day; the next seven days two ounces, twice a day; next day he purged; following five days the medicine was continued as before; the day after, purged again; following four days, the medicine as before; and, finally, the day after, after the groom had exercised him as usual, on his return he tied him up in his box. "Five minutes afterwards, he [the groom] found the patient had in his absence dropped down dead."

It seems surprising that such a careful observer as Percival had not noticed the efficacy of this drug as an evacuant. Evidently his observatory powers were subordinated to one object, viz, the cure of glanders. If he had studied the physiological action of drugs rather than their therapeutical action, we should not have had to wait from the time of Solleysell to that of Dieckerhoff's before we had placed in our hands an agent which brings about intestinal evacuation in as many minutes as it takes hours for aloes to have a similar effect.

INTESTINAL OBSTRUCTION IN THE DOG, WITH AN UNUSUAL CLINICAL HISTORY.

By E. Wallis Hoare, F.R.C.V.S.

Subject.—An Airedale dog, three years old.

History.—The owner, a medical man, gave the following history. Up to three weeks ago, the animal was in perfect health. Then he commenced to lose condition, and vomited occasionally. The appetite was capricious, and at times the dog seemed dull, the bowels acted normally.

When brought for treatment, there was extreme emaciation. Careful examination failed to detect any evidences of disease in the various organs. The animal was admitted to the infirmary.

He took food in a dainty manner, and drank large quantities of water. On the second day there was no action of the bowels, so a dose of castor oil was administered with five grains of Hyd. c. creta. This did not act until assisted by enemas.

For the next few days, nothing special was detected, beyond the fact that the bowels did not act unless enemas were given. No abdominal distension was present, and the animal fed as usual Obstinate constipation then occurred, which was relieved by castor oil and 8 grains of Hyd. c. creta, with enemas; fluid fæces being passed.

The animal gradually became weaker and on the first day vomited a large amount of bile-stained fæcal material. Death occurred that night.

Autopsy.—On opening the abdominal cavity the small intestines were found enormously distended with fluid ingesta. The duodenum and stomach contained a bile-stained fluid, and the mucous membrane was of a yellowish-brown colour.

The intestines were carefully removed and examined. The distension with fluid ingesta was present down to about the last third of the ileum, when a sudden constriction occurred, and a large pouch was formed in the intestine, succeeded by another constriction. This pouch showed evidences of acute enteritis, and contained a wedge-shaped stone, with smooth surfaces, which weighed 1 oz. 6 drachms; a smaller stone accompanied it. The pouch was shaped exactly like the bulbous portion of an ordinary rubber enema syringe.

The colon contained fæces in rather a dry condition. The opening from the pylorus into the duodenum seemed very constricted and its walls seemed thicker than normal.

Remarks.—Two points strike the clinician when meditating on the above case.

(1) One would have expected acute symptoms during the passage of this stone along the length of intestine which it traversed. How it succeeded in gaining an exit through the pylorus into the duodenum is mysterious, on comparing the size of the stone with the narrow outlet. Evidently a certain amount of ingesta must have found its way past the stone prior to the constriction and pouch having been formed.

Beyond the occasional vomiting and the loss of condition, the owner did not observe any symptoms during the three weeks; indeed, so slight were the evidences of illness, that he suspected it was due to the presence of worms.

(2) With reference to diagnosis, although the animal was emaciated in other regions there was a thick layer of omental fat, and the abdominal walls were very thick. These probably prevented me from discovering the presence of the foreign body by palpation.

Had I suspected the nature of the case, and placed the animal under chloroform, it is possible that palpation might have succeeded in discovering the obstruction. The absence of vomiting while the dog was under treatment until close to the termination of the illness, the absence of abdominal pain and distension, and the previous history of the case, would be sufficient to excuse the most expert clinician from the accusation of overlooking its true nature.

Some years ago I recorded a similar case in a dog in which the classical symptoms of intestinal obstruction were absent. Cases of this kind prove the veracity of the Hippocratic aphorism, "Experience is fallacious and judgment difficult."

As an example of how erroneous histories of cases are often given, I may mention that some time ago a retired Army officer who "dabbled" in veterinary science, brought a dog for treatment saying that the animal had swallowed the top of an oil can, used for a lawn mower, the previous day. The dog showed abdominal distension, marked pain on being handled, and, moreover, was very fat. Its piercing shrieks were due, according to my client, to penetration of the intestine by the sharp top of the foreign body.

As I did not feel inclined to proceed to an immediate operation, he ventured to locate the situation of the foreign body, which he could feel with facility in the "cæcum!!" However, I postponed operating, and admitted the dog as an in-patient. A good purgative, followed by full doses of salicylate of soda, soon restored the animal to health.

Next day my client arrived, no doubt excited lest I should have performed laparotomy, but suffering chagrin, as his own error could not be concealed, for he had found the missing body in the tennis ground. He now admits the danger of hurried conclusions and also the difficulties in diagnosis in veterinary practice.

ABSTRACTS FROM FOREIGN JOURNALS

An Outbreak of Infectious Equine Nasal Catarrh.

Oksész reports (*Allatorvosi Lapok*) an outbreak of this nature which affected nearly all the horses of a squadron of hussars in the beginning of June. Some of the affected animals showed violent irritation of the nasal region, which they rubbed against hard objects. The nasal mucous membrane was bright red, injected, and set with small hæmorrhages; the nasal discharge was slimy and white. The wings of the nostrils, and in some cases the upper lip also, were swollen and abnormally warm; the epidermis underwent scaly desquamation. The lymphatic glands of the throat were swollen. The temperature was not very high—from 102° to 102·7° F.

The treatment consisted in washing with 2 per cent. solution of creolin and smearing with white vaseline. The disease ran a favourable course within three to six days.

The disease was introduced through horses which brought the litter-straw into the barracks—that is to say, the virus was present in the litter. Horses which did not come into contact with this litter were not affected; but when this litter was experimentally placed under other animals, these became affected. Altogether 92 per cent. of the whole of the horses in the barracks sickened, after an incubation period of from one to three days.

The disease could not be transmitted directly from horse to horse; some officers' horses, which being private property, were not lodged in the barracks, did not contract the disease, despite the fact that they came into contact with the affected animals upon the exercise ground.—*Berliner Tier. Woch.*

Scopolamine as an Auxiliary to Chloroform.

Iliesco has published, from the Institute of Physiology of the Faculty of Sciences at Bucharest, a long article upon scopolamine, with special reference to its adjuvant action in chloroform anæsthesia. Records of physiological experiments figure very largely in the article.

The author has compared the action of scopolamine upon animals (chiefly dogs and rabbits) with

the effects produced by fatigue (induced by enforced running or by electricity), by heat, and by section of the pneumo-gastric nerves. In addition to this, he has also compared the action of chloroform alone upon normal animals with the subsequent action of chloroform upon the same animals when under the influence of scopolamine, or after having been subjected to heat, fatigue, or vagus section. He states the following conclusions from his research:—

1. Scopolamine accelerates the heart, augments the blood-pressure, and accelerates the respiration. It modifies the peripheral nervous system by suppressing the pneumo-gastric in the dog, and by reducing its action in the rabbit. No appreciable modification of the sympathetic nervous system is observed; and the drug is without action upon the depressor nerve. In the first place it augments, and afterwards depresses, the excitability of the nervous centres (medulla and brain).

2. Scopolamine is an important auxiliary in anæsthesia by chloroform, which is obtained by its aid in a shorter time and with a smaller quantity of chloroform.

3. This action of scopolamine is due to two kinds of modifications which it produces in the organism, viz., (*a*) Modifications of the central nervous system, and (*b*) Modifications of the circulation and of the respiration.

4. Fatigue influences chloroform anæsthesia in the same manner and by the same mechanism as scopolamine.

5. The quantity of chloroform employed being much reduced when scopolamine is used, the cerebral disturbances produced disappear rapidly. The animal awakens more quickly from this method of anæsthesia than when chloroform alone is em ployed, and the consciousness is rapidly restored. The only effect which persists is dilatation of the pupil, which is maintained for the next twenty-four hours, and sometimes even longer.

6. Scopolamine prevents cardiac syncope, not by paralysing the pneumogastric, but by reducing the quantity of chloroform employed, and thus avoiding intoxication of the heart.

7. This method of anæsthesia by the combined use of scopolamine and chloroform can be recommended, but only upon one condition, viz., that the anæsthesia is not pushed too far. For if respiratory syncope is once produced, then, as the heart is very accelerated by the influence of scopolamine, the oxygen of the blood is rapidly consumed, and the animal dies more quickly than in the case of anæsthesia without scopolamine.

In addition to these conclusions, the article, although mainly a physiological study, contains some details which will aid clinicians desiring to attempt this method of anæsthesia. The injection of scopolamine of course precedes the administration of chloroform, and the effect of the first drug should be followed. Therapeutic doses of scopolamine induce somewhat important nervous symptoms. At first nervous excitability is augmented; the animal is restless, and even very agitated. This period of agitation lasts from fifteen to twenty minutes; and is followed by one of depression, during which the animals seems half asleep. This period of torpor, however, is not a true hypnosis; for the sensibility to pain is not only preserved, but may be exaggerated.

This secondary period of depression, following the primary one of agitation, is the most favourable time for the administration of chloroform. The author suggests that the chloroform "takes the nervous system by surprise" when depressed by scopolamine; and that this, in conjunction with the abnormal activity of the circulation under the influence of scopolamine, which causes a more rapid distribution of chloroform throughout the organism, explains why less chloroform is required to produce anæsthesia.

Scopolamine may be administered either by hypodermic or intravenous injection, and distilled water may be used to make the solution for either method. For intravenous injection, however, the author prefers a vehicle without effect upon the blood corpuscles, and uses the following solution:—chloride of calcium, chloride of potassium, and carbonate of sodium, ·2 gramme of each, chloride of sodium ·9 gramme, in one litre of distilled water. Scopolamine is dissolved in this in the proportion of from ½ to 2 per cent.

The author also mentions that animals of nervous temperament are very sensitive to the action of scopolamine.—*Arhiva Veterinara.*

W. R. C.

NORTH OF ENGLAND VETERINARY MEDICAL ASSOCIATION.

The annual meeting took place at the Douglas Hotel, Newcastle-on-Tyne, on Friday, March 4th. The following members and others were present: Messrs. E. R. Gibson, President, Seaham Harbour; G. Elphick, E. Elphick, T. Parker, T. S. Hunter, J. Davidson, A. Monro, Newcastle-on-Tyne; G. Craik, Alnwick; J. W. Ryder, Beamish; G. R. Dudgeon, G. W. M. Mitchell, Sunderland; T. Wilkinson, Lanchester, F. H. Sanderson, Ovingham; A. Chivas, Corbridge; Prof. J. R. U. Dewar, Edinburgh; and T. T. Jack, Hon. Sec., Sunderland.

The minutes of the previous meeting were read and adopted.

A circular was received from the Hon. Sec. of the Royal Counties V.M.A. *re* the suggested appointment of a Veterinary Officer to the Local Government Board. On the motion of the President it was agreed to support the resolution contained therein.

Mr. SUMMERS, M.R.C.V.S., of Allendale, was unanimously elected a member of the Association.

PRESIDENTIAL ADDRESS.

Mr. E. R. GIBSON, M.R.C.V.S.

Gentlemen,—It has been an established custom for the President of an Association, on assuming office, to address a few remarks to members on current topics affecting our profession. It is not my intention to trespass for very long on the time at our disposal this afternoon. In the first place, allow me to express my sincere thanks to all the members for having elected me to the honourable position of President of this old Association,

almost, I believe, the oldest in the kingdom. The presidential chair has been occupied in the past by many worthy men, some of whom I am pleased to say are with us still, men who have done much both by their work and example to elevate the status of our profession to the position which we hold to-day. I regret very much that we have not an unbroken record of the proceeding of this Association since its inaugural meeting in July, 1864; the minutes from that date until 1879 have unfortunately been lost.

On looking up the rules I find that the Association was formed with four principal objects in view: (1) the elevation of the social status of the profession: (2) the establishing, promoting, and maintaining of good and friendly understanding amongst its members: (3) the supervision and protection of their professional interests: (4) the reading and discussion of scientific subjects relating to the theory and practice of veterinary medicine and surgery.

You will admit, gentlemen, that an Association could not have been formed with four better and worthier objects in view. To take the first one—the elevation of the social status of the profession—it is very gratifying to think of the strides that have been made in this direction during the last 30 or 40 years; of course I am speaking generally, not individually, as I have no doubt, in fact I am sure, that there were members of our profession in those days who were equal in intellect and social attainments to any of to-day, but the profession as a whole has been raised from the level of the empiric to the status of the scientific practitioner who enters upon his career armed with the latest teachings of science. As to how far associations of this kind have assisted in bringing about this desirable change, one has only to look up the record to find that the North of England has always been to the front in the consideration of any question pertaining to the education or safeguarding the interests of the future graduate. The second object of the Association—to establish and promote friendly relations amongst its members—also, you will agree, is a very good one, and worthy of an Association of this kind, for the bringing together mem bers of a profession in friendly and amicable discussion always tends to broaden a man's views, and to smooth away any little feeling of professional jealousy which will inevitably crop up in the keen competition to which we are all more or less subjected at the present day.

The third object: the supervision and protection of professional interests—is one which I am afraid has been somewhat neglected by Veterinary Associations, and I hope in the near future to see some tangible scheme evolved to bring all Associations into close union for purposes of defence and protection.

The fourth object of our Association is the reading and discussion of scientific subjects relating to the theory and practice of veterinary surgery and medicine, and here again, in surveying the records of proceedings in days gone by, one cannot help being struck by the amount of enthusiasm with which members entered into the spirit of debate. We have less inclination nowadays to air our views on professional subjects: Scientific research has in recent years enlightened us enormously, and a discussion is now out of the question on subjects which 30 years ago gave rise to endless differences of opinion. The microscope has revealed to us that in attempting the treatment of certain diseases on lines then in vogue we were working entirely in the dark. Hence we see in later years a falling-off in the number of subjects brought before meetings by local practitioners. If the Secretary appeals nowadays for a subject for discussion he invariably meets with the same reply, that the member in question has nothing sufficiently up-to-date to bring before the meeting. Therefore we have come to rely more and more on the kindness and good nature of gentlemen who, by their position as teachers of one branch or another of veterinary science, are better able to enlighten us on current events.

Having surveyed briefly the past records of this Association, I would like to say a word or two as to the future. We have just now a scheme on foot for the Amalgamation of Veterinary Associations; at recent meetings we discussed the proposals made by the provisional committee for carrying out the scheme in question, and upon the whole I think we agreed that a scheme of amalgamation such as suggessed would be an undoubted advantage to the profession, and that the proposals, with certain modifications, would be a step in the right direction. In other quarters the proposals have met with much adverse criticism: like all new schemes it has not been received with unanimous approval. It is to be hoped that as a result of further deliberations a scheme may be evolved which will meet with the approval of all concerned. Whatever may be the outcome, we cannot accuse the promoters of the present scheme of having been actuated by anything except a laudable desire to further the best interest of our profession.

I will not now detain you longer, as we are honoured to-day by having with us our old friend and tutor, Prof. Dewar, who in spite of his manifold duties, has so kindly acceded to my request for a subject for discussion. No words of introduction are necessary from me, Prof. Dewar is so well known amongst us. We beg to extend to him a hearty welcome. (Applause).

The President was accorded a hearty vote of thanks for his address

THE STATE IN ITS RELATION TO TUBERCULOSIS.

Address by Prof. DEWAR.

No apology is needed for introducing the subject of "The State in its relation to Tuberculosis" for discussion at any meeting of veterinarians, more particuiarly at the present time. There is every reason why our profession should, after carefully considering the question in all its bearings, give expression to its views on the matter. We are necessarily more familiar with it than any other body of our fellow citizens, and are neglecting our duty to the State if we do not attempt to influence any legislation which may take place regarding it.

An Order has recently been issued by the Board of Agriculture and Fisheries, under an addition to the Diseases of Animals Acts, which was passed last session of Parliament, making it compulsory on veterinary surgeons to notify every case of contagious disease they may meet with in practice, to the Local Authority of the district ln which the animal is situated, and the Local Authority is instructed to pay to the veterinary surgeon a sum not exceeding 2/6 for each outbreak of contagious disease so notified.

This Order comes in force on the 1st of April next. None of us will object to this, but will give it a cordial welcome. We are always willing, even anxious, to arrest and prevent disease in animals when we can, although it seems often against our own interests, and this Act also brings us more into line with our medical *confrères*.

I regret to see it reported that some Local Authorities have already decided to pay a smaller sum than 2/6 for each statutory notification of disease. It seems to me that no one could have anticipated this, and that it will reflect more on the Local Authorities in question than on the members of our profession.

This, then, is the most recent act of the State in acknowledging its liability for the protection of our flocks and herds from contagious disease.

The first I find any record of is an Act which was passed in the reign of George III., entitled, "An Act

for preventing the depasturing of forests, commons, and open fields with sheep or lambs infected with the scab or mange, in that part of Great Britain called England." Perhaps the northern division of the Kingdom was too far from the seat of Government to receive much attention: or it may not have been so badly affected with this entertaining disease as the "predominant partner."

Then in the reign of our late Queen, in 1849, two Acts were passed, one to prohibit the importation of diseased sheep, cattle, or other animals, and the other to prevent the spreading of contagious or infectious disorders among sheep, cattle, and other animals. The latter Act was renewed annually until 1854, when it was made permanent.

From that time there was little change until 1886, when, owing to the prevalence of Cattle Plague in the country, "The Cattle Diseases Prevention Act" was passed. It was remodelled as "The Contagious Diseases (Animals) Act" in 1869, and in 1878 was again renewed with alterations and additions. The Regulations were remodelled by The Animals Order of Feb. 5th, 1884. From that date the changes made in the Acts will be familiar to most of us, and the inclusion of other diseases in the list from time to time.

Contagious Diseases not Scheduled.

Three diseases common in this country, and not yet scheduled in our list, are dealt with as contagious diseases in most European countries. These are Swine Erysipelas, Black-quarter, and Tuberculosis.

The first of these—Swine Erysipelas—does not cause a very great loss to the country as a whole, although occasionally it has caused considerable loss in districts with a dense "porcine" population.

The second disease—Black-quarter—is quite common, but practically never occurs as an epizootic, and is not dangerous to animals other than ruminants.

But the third disease—Tuberculosis—causes a greater loss to breeders, feeders, and to the State, than any other disease in this country.

Then why is it not dealt with like other contagious diseases?

Yes, why? I have no hesitation in affirming that in the course of five years it causes a greater loss to the country than Cattle Plague did in 1865-66. Then why does the State practically ignore it? Simply because of the extraordinary prevalence of the disease—because of the very magnitude of the question. I do not mean to enter here into any calculation as to the number of bovine animals affected with tuberculosis, perhaps one-fifth of all the cattle in the country, certainly at least one-third of all the dairy cows. When one thinks what this means it is at once evident that to deal drastically with it, as has been done with most of our contagious diseases, is out of the question. It would completely upset the agricultural and commercial business of the country.

How the Disease is dealt with Abroad.

Thanks to our insular position, and to the fact that—owing to the risk of importing other contagious diseases—the Government has vetoed, the importation of cattle except for slaughter at the port of debarkation, there is no risk of importing tubercular animals. But nearly all civilised countries, including our own colonies, prohibit the importation of animals affected with tuberculosis.

In Canada, in which a State Veterinary Service is of comparatively recent origin, strict quasantine rules are enforced. Here is an extract from the Regulations: "Cattle reacting to the tuberculin test, but not showing clinical symptoms, shall be permanently marked in the right ear by the letter 'T' by the officer making the test, and may then be released at the expiry of the prescribed period of quarantine if found free from all other infectious or contagious diseases." "Cattle showing clinical symptoms of tuberculosis shall be destroyed or otherwise disposed of as the Minister may direct."

The Veterinary Department also supplies tuberculin: "If any owner of cattle desires to have his animals tested, and will send in to the Department the number of doses required, and the name of any reputable qualified veterinary surgeon whom he wishes to employ to do the work, the latter will be furnished free with sufficient tuberculin, on condition that he reports to the Department the result of the test on charts which are supplied for that purpose. Reacting cattle to be permanently ear-marked by an officer of the Department."

These quotations are sufficient to show how the contagious nature of tuberculosis is looked on by the Dominion Government."

In the United States each State formulates its own laws and regulations governing disease in animals, and most of the States have passed laws dealing with tuberculosis.

In Minnesota, which has a bovine population about two and a half times that of Scotland, the Sanitary control work is under a Live Stock Sanitary Board, consisting of five members, three of whom must be financially interested in live stock, and two must be veterinarians. The Secretary must also be a graduate of a Veterinary College.

Importation of animals for dairy or breeding purposes is subject to the tuberculin test. The penalty attached for violation is not less than 500 dols., or more than 1000 dols., or imprisonment for not more than twelve months.

It is compulsory, under penalty, for any one who knows of or suspects the existence of any infectious disease, to report it to the local health officer, and he within twenty-four hours to the State Board; but cattle are not compulsorily tested except where clinically affected animals are met with.

The State supplies tuberculin on much the same terms as Canada, but reacting cattle may be valued, removed, and slaughtered. The carcases are disposed of to the best advantage and the return or salvage goes directly to the owner, who is paid in addition three-fourths of the difference between the valuation and the salvage. The State also requires that when cattle are tested and diseased animals removed and paid for, the owner must disinfect the premises to the satisfaction of the Department, and must not put any untested cattle into them again.

Notwithstanding that the State has set aside a large sum of money for dealing with tuberculosis, Dr. Reynolds, one of the Veterinary Members of the Live Stock Sanitary Board, states that he does not anticipate any marked diminution in the extent of the disease for a good many years, far less its complete suppression. Although the reactions after testing have only reached a fraction over 9 per cent., he considers the disease so widespread and so insidious in its nature that continual and persistent fighting of it for many years will be required before anything like its eradication from the State may be looked for.

In New Zealand, according to Mr. J. A. Gilruth, late Chief Veterinarian, "the application of the tuberculin test is retained in the hands of the qualified veterinarian, is employed only in doubtful cases, or at the request of the owner, or when it is considered necessary to eradicate what appears to be a hotbed of the disease. Clinically affected animals are summarily destroyed, and compensation granted at the rate of one-half the market value of the animals." He states that this compensation has been in force for nearly fourteen years and is greatly appreciated by the farmers, who in many cases call the attention of the Government Inspectors to the animals. Even by this method of dealing with

it, Mr. Gilruth says, "the evidence that the disease is not on the increase, but rather is on the decrease amongst New Zealand herds is very strong."

On the European Continent the disease is mostly dealt with by one of two methods—either by the method of Bang or by that of Ostertag. There is nothing to prevent these two methods being combined and employed to assist each other.

The method advocated by Professor Bang is, as you know, the testing of all breeding animals with tuberculin, at least twice a year, and the separation of the reactors from the non-reactors—the reactors never to be returned to mix with the healthy herd, and never sold except for immediate slaughter. In the case of valuable breeding animals which react but are not clinically affected, he suggested that they might be retained to breed, but that the calves should be separated from their dams as soon as born, and if fed on their mothers' milk, the milk should be boiled or pasteurised before being given to them. I have shown elsewhere that this latter recommendation might be greatly modified, if not dispensed with.

Ostertag's method is the compulsory notification of all animals clinically affected, or, as he terms it—suffering from open tuberculosis—to be followed by their rigorous isolation or immediate slaughter, with partial compensation by the State, and the thorough cleansing and disinfection of all buildings in which affected animals have been kept.

Now, there cannot be any doubt whatever that if Bang's method were worked conjointly with Ostertag's the result would be much more satisfactory. In fact Bang's method never presumed the retention of clinically affected animals, far less their association with perfectly healthy ones.

Notwithstanding that the whole scientific world has been studying the question of tuberculosis for nearly thirty years, and studying it most persistently, the problem of the best way of dealing with the disease in order to restrict its propagation and to lead ultimately to its final eradication, is far from being solved. We have seen more than one State enter on a well meant and vigorous crusade against the disease, and after fighting strenuously for some time find the task it had undertaken more difficult than it had expected, have to modify its efforts and take stock of its position.

In France, where the disease has been scheduled for years, where diseased animals are slaughtered and compensation paid for them by the Government, the results at the present time are scarcely commensurate with the expenditure entailed. Last year the French Parliament voted the sum of 1,500,000 francs (£60,000 nearly) "as compensation for the slaughter of tuberculous animals, the seizure of tuberculous meat, and the performance of preventive inoculations by the Department, yet we heard Professor Moussu, of Alfort, at the International Congress at the Hague last September, stating that in spite of the compensation notifications are not made. When that is the case there can be no result. The compensation paid by the State increases year by year, but that does not prove that useful results are being obtained. Enormous sums have been thus swallowed up and completely lost. We have been following the wrong road up till now, and in spite of the sacrifices made have done little but hinder the further spread of the disease."

Preventive Inoculation.

A reference has been made to preventive inoculation. A few years ago great hopes were entertained of this method of preventing and combating the disease, but they are certainly not so bright nor so generally held today. These were mainly due to the investigations, experiments, and writings of Dr. Von Behring, of Marburg. And the method was extensively tried by others and very favourably reported on at first. Several preparations have been used, but one of the first and most largely used was the intravenous inoculation of cultures of human tubercle bacilli. We find Professor Hutyra, of the Royal Veterinary College, Buda-Pesth, stating in 1906, that "the protective inoculations of Von Behring have already been applied in practice to more than 10,000 animals." At that time he wrote very favourably and very hopefully of the method.

But all the world knows how, under an agreement with the Argentine Government, Dr. Von Behring sent out a Dr. Römer to Argentina to put his method to the test under Government supervision, and under the most favourable circumstances possible. Before then he claimed that he had discovered a method, not only of immunising healthy animals against the disease, but of curing many of those already affected. Dr. Römer started his work in Argentina in June 1907, and carried it on for a year. The Report of the Official Commission appointed to watch the experiments and report on their effects and final results contains the following:—"The Tulaselaktin of Professor Von Behring, according to the proceedings and doses employed by his representative, Dr. Römer, has neither determined the cure nor the regression of the tuberculous lesions in the cattle to which it has been applied." "The Tulaselaktin has not prevented the development of tuberculous lesions in some experimental subjects." So ended what was perhaps the most expensive inoculation experiment ever entered on, and one which the whole scientific world had been eagerly watching.

Now, although this was very disappointing, it did not dishearten experimenters, and eager scientists all over the world are still working hard in endeavouring to find a safe and satisfactory immunising agent.

There is no doubt whatever that, even at present, cattle can be immunised against tuberculosis, but it is not a lasting immunity, it is not even durable, and is not without danger. The serum with which Dr. Von Behring experimented in Argentina was said not to contain any living organisms, but it was proved to be useless for the purpose intended. As long as the immunising material contains living tubercle bacilli, however remotely allied they may be to the organism of bovine tuberculosis, there must be some risk in using it, and if it contains living tubercle bacilli of human origin there must be always some risk to the individuals handling it. Then, apart altogether from the efficiency, or the safety, of the inoculating material, the charge can be brought against it that it always presupposes the continued existence of tuberculous animals amongst the inoculated. Where there is no tuberculosis there is no need to inoculate. A breeder who has not got tuberculosis in his herd, or who by means of Bang's, or other methods, has managed to eradicate it, can afford to look on with comparative indifference to the efforts being made in the world around him to render animals immune to the disease. In our own country very little has yet been done to arrest the progress of tuberculosis in animals. But we have seen that, at least since the closing years of the eighteenth century the State has acknowledged its liability to protect, as far as possible, the live stock of its subjects from the ravages of disease.

Pure Milk and Public Health.

As long ago as 1879 an Order was passed entitled "The Dairies, Cowsheds, and Milkshops Order." It was conceived in the interests of Public Health alone, and, apart from that, did not deal with the health of the cows. It dealt with contagious diseases, but for long after that tuberculosis was not included as a contagious disease of animals. And although alterations were from time to time made in the Dairies Order, it was not until 1899 that tuberculosis of the udder was included as a

disease to be dealt with under the Order. Please observe that this Order was not issued by the Board of Agriculture and Fisheries, but by the Local Government Board.

It is scarcely conceivable that, but for the various local and municipal acts which we find scattered over the country, a Veterinary Inspector, or Veterinary Officer of Health has no power to interfere with any cow suffering from tuberculosis, even although in a dairy byre. She may be a veritable piner, or dying of pulmonary tuberculosis, and but for these local Acts he has no right to interfere with her. Even if a cow has tuberculosis of the udder he has no right to order her removal. All that the Order of the Local Government Board requires is (*a*) that her milk shall not be mixed with other milk; (*b*) shall not be sold or used for human food; and (*c*) shall not be sold or used for food of swine or other animals unless and until it has been boiled.

Without meaning to minimise the effect of this Order, it could scarcely have asked less. Many Local Authorities have now the power to order an animal affected with tuberculosis of the udder out of the byre, and even off the dairy premises, but I am not aware that anyone has the power to order her destruction. The result has been that cows ordered out by the Veterinary Inspector of one local authority have frequently found their way into the district of another local authority, and there continued to act as milk producers, aye, and that milk has sometimes found its way back into the district of the first local authority.

This Order has now been in force over ten years. Surely the subject is ripe for further legislation.

The Recent Tuberculosis Order.

It was in this position when the Tuberculosis Order of May, 1909, was issued by the Board of Agriculture and Fisheries. That Order was to come into operation on the first day of January last, but, as everyone knows, it didn't. By September the Board, I presume, found executive difficulties in the way, and issued a Supplementary Order postponing the date of the Order coming into force until the first day of April next. To all appearance the difficulties had not then been overcome, as on the 8th December last the Board issued a further Order revoking both the former Orders. This is very unfortunate, and as far as this almost ubiquitous, this ruinous scourge is concerned we are left in the same position in which we were ten years ago. What that position is I have endeavoured to illustrate to a slight extent in connection with the Dairies Order. But that is only in its relation to Public Health, and gives no indication of the loss, the enormous economic loss, which accrues annually to the country from the prevalence of this insidious and persistent disease.

The loss of this still-born Order of the Board is very much to be regretted. It would have given Ostertag's recommendations—not in their entirety, but to an appreciable extent—the force of a legal enactment. Notwithstanding the pessimism of many of those interested in the subject, especially of our agricultural friends, tuberculosis can be eradicated from our herds. It will not be in my day, but if it can be done in one herd in which it has been prevalent—and no one will question that—it can be done in all. And this Order of the Board would have been a good beginning.

Now what was the cause of its withdrawal? It is not for me to say. But we all saw the criticisms to which it was subjected in the public press. And it is only right that all proposed legislation should be criticised. If it cannot stand criticism there is something wrong. I need hardly say that I am not in the confidence of the Board of Agriculture, but it seemed to me that the only criticism of much importance was that directed at the financing of the Order. The Board, unfortunately, it appears, laid the burden of providing compensation for animals slaughtered under the Order on the Local Authorities. This was the point to which most adverse criticism was directed. Every Local Authority of importance throughout the country was up in arms against it, and, I venture to think, rightly so. No government department would consent, or would ever be asked, to finance a scheme framed and enacted by another department.

Unfortunately this vicious principle had been enacted and accepted in the Glanders Order of 1907. In the Glanders Order of 1894 there was no compulsion on Local Authorities to slaughter diseased animals—it was only permissive—but if the Local Authority did slaughter they had to pay. In the 1907 Order, however, slaughter was made compulsory and also the payment of compensation.

There is a great difference, however, between glanders and tuberculosis. The former is almost confined to our large urban centres—in fact, to London and Glasgow—and when found in our smaller towns and country districts can generally be traced to these centres. It was felt that there was no great hardship therefore in making these wealthy towns, which mainly harboured the disease, pay for its suppression.

But in the case of tuberculosis it is different. The existence of the disease is so widespread, so universal, it affects so intimately, so directly, the health and wealth of the nation, that its suppression becomes undoubtedly of national importance.

Under the Order which has been withdrawn the incidence of the compensation would have been so unequal, in many cases so unfair, that the outcry against it was only natural. But it is by no means certain that some of those who cried out loudest would have suffered most unjustly.

Let us take a large urban Local Authority with a considerable suburban area under its control, in which the greater proportion of the cows are kept which supply its citizens with milk. Not many of the cows will be bred or reared there. They will practically be all bought in. Not many of them are bought in very young. They are mostly bought after they have quite reached maturity, many of them old, and at an age when tuberculosis is much more common than it is amongst young cattle.

No time limit was mentioned in the Order, not even the usual twenty-eight days' quarantine. A cow might have been bought and brought into a dairy byre only the day before some dairy inspector found her suffering from tuberculosis, and she had to be slaughtered and compensation paid for her by the Local Authority in whose district she was found—not by the Local Authority from which she came last, or the Local Authority in whose district she contracted the disease, but by the Local Authority which ought to have no liability concerning her whatsoever.

Perhaps a butcher may say, "Oh! that is only a trade risk. When we buy an animal to make into beef, and have its carcase condemned, you tell us that it is only a trade risk." To a certain extent that is true: but the butcher is at perfect liberty to protect himself in any way he thinks fit, and he is not slow to do it either, even to the extent of boycotting. If a Local Authority, then, is to be compelled to slaughter these cows only just brought into its district, and to pay compensation for them, it ought to have the power to make rules regulating the admission of the animals, to have them examined by its veterinary inspectors, and their admission refused if in the opinion of the inspector they are tuberculous. It ought also to have the power to fix a time, it might be twenty-eight days, it might be sixty days, it might be one hundred days, before the expiry of which, if an animal is found to be affected with tuberculosis, no compensation is to be paid for her. If kept alive she would have to be rigorously isolated, and her milk

boiled before being given to animals, while she should never be lost sight of until she reaches the slaughter-house.

Now, to save all this—to save the confusion of having different rules and regulations for each Local Authority, for each municipality—the Government ought to pay the necessary compensation, and the rules and regulations should be general, should be national.

Rate of Compensation Proposed.

Let us look for a moment at the scale of compensation proposed in the late Order—and here let me say that all my sympathies are with the stock-owner, with the agriculturists; I have been associated with them all my life, and many of my best and most intimate friends are farmers; but to-night let us examine the subject more from an administrative point of view. Under Section 7, Sub-sect. (1) provision is made for paying full compensation, with one ponnd added, for animals slaughtered under the Order, in which no tuberculosis is found post-mortem. No one will say that is too liberal.

Under Sub-sect. (2) provision is made for paying, roughly, three-fourths of the value of the animal if on post-mortem it is found that she had not been suffering from what was defined as advanced tuberculosis.

Now, is not the propriety of dealing with animals which are not clinically affected, or suffering from open tuberculosis, or tuberculosis of the udder, open to question? I am inclined to think that at this early stage of dealing with the disease only animals clinically affected, or suffering from tuberculosis of the udder, should be dealt with. And has the owner of a cow with a tuberculous udder any right to compensation? I must say, I think not. It is argued that if the sale of any dairyman's milk is stopped, or if he is prevented selling or using the milk of any cow for the public good, the public ought to pay for it. That sounds all right, but let us put it conversely. Has any man a right to sell tuberculous milk—milk from a cow with a tuberculous udder, to the public, in other words, to his friends and neighbours? Everyone now knows that this milk from a tuberculous udder contains a virulent poison, is poisonous not only to man but to all our domestic animals. Surely no one will dare to claim that he has a right to sell poisonous milk as a wholesome nourishing food to those whom he can induce to buy it. Then if he has no right to sell it, he cannot in justice complain if he is prevented selling it. Nay more, it is the duty of the Government to protect the subjects of its Sovereign from poisonous food stuffs. That is beyond question.

Remember the amount of printers' ink that was spent by our newspapers over some poisoning by arsenic which had got into beer, brewed by a firm in Manchester, I think, some five or six years ago. Yet that was a small affair compared with tuberculous milk. Those who consumed the beer knew their fate in a few days, or weeks at most. But those who drink the poisonous milk may die of a painful and lingering disease communicated by the milk, twenty years after they have consumed it; and not only so, but as it is a living and virulent poison, the cause of a contagious disease, the unfortunate victim may communicate the disease to others, and so on indefinitely.

The cow with the tuberculous udder, then, should be left to her owner. He is not deprived of anything he has a just right to, but she should be rigorously isolated until she is slaughtered, while he may be thankful if he is not prosecuted for criminal negligence. This method of dealing with diseased cows many may consider harsh, but it is perfectly just, and tubercle bacilli have no more right to be in the milk than arsenic has to be in the beer. Their presence there is quite preventable.

To Sub-section (3), which permits of compensation to the extent of one-fourth the value of the animal in cases of advanced tuberculosis, little exception can be taken, if anything is to be done to limit the spread of tuberculosis.

An Illustration of its Contagiousness.

In connection with this, I might mention an incident which came to my knowledge recently. A short time ago, this winter, a professional friend of mine was asked to test with tuberculin last year's crop of calves from a small but high-grade herd of pedigree cows. There were 15, practically one-year-olds—10 bulls and 5 heifers. To his surprise and disappointment, 6 of the 15 reacted—2 bulls and 4 heifers. This was so unusual a percentage that he instituted inquiries to try to find a cause for it. It was not very difficult to find. The breeder had an old favourite cow which had given birth to several very high priced calves, and he had made up his mind not to put her away, but to let her die a natural death. This old cow became evidently very ill, was suffering from open tuberculosis all last summer, coughing, wasting, and getting gradually worse. And although the breeder's own stockman, appreciating the danger, pressed his master to put her away he would not do it. She was allowed to graze in a field all summer. Of these 15 calves, the 2 bull calves and the 4 heifer calves which reacted to the tuberculin, grazed in a field along with the old cow, and not another calf had been near her. Not one of the 9 calves which did not react to the tuberculin test had been in contact with this cow.

The Whole Question Considered.

Even from a purely economic point of view, facts like these are sufficient justification for the Government stepping in and trying to save breeders from themselves, and trying to do something to arrest the spread of the disease. Although the method elaborated in the recent Order was, as I have pointed out elsewhere, beginning at the wrong end as a means of arresting the spread of the disease, it was a method of collecting and disposing of the results of the disease, rather than of arresting it at its source, stopping it at the fountain head, at the homestead of the breeder, and although it would have been most frequently enforced in our dairy byres where there are not many calves or young animals to be exposed to the risk of contagion, still it would have done good from a Public Health point of view—as a means of educating the public to a more correct appreciation of the risks arising from the disease, and the magnitude or the question.

Since the time when the value of tuberculin as a diagnostic agent was discovered, had our farmers and breeders welcomed it and used it as a friend, a gread deal might have been done to arrest the spread, aye, even to suppress the disease. But, while there are a few honourable exceptions, it has generally been received with apathy and indifference, and by many of our breeders of pedigree stock with ill-concealed antipathy. They have tried to find fault with it, to pick holes in its results, and to discredit it in every possible way. They did not like it. It was too straight. It told them without fear or hesitation what they would much rather not have known. This is very unfortunate, as most of these men exercise a very considerable influence in the Agricultural world, and there is no doubt whatever that if ever tuberculosis is to be successfully tackled it will not be by gathering in the wrecks, by picking up the flotsam and jetsam of this terrible scourge, but by beginning in our rural districts, at the individual farms where the animals are bred and reared. It is a comparatively simple business there if the breeders would only understand it and take it to heart.

Tuberculosis, like other contagious diseases, is most prevalent where the traffic in animals is greatest, where there is a continual movement amongst them. In our rural districts, at the small breeding farms, where the only animal purchased is a bull once in two or three

years, very seldom a cow or heifer, the complete eradication of the disease should be a comparatively simple matter. Something requires to be done to stimulate interest in the subject in the country districts—to teach our breeders that they ought to help themselves.

Public opinion is perhaps not yet ripe for preventing, for making illegal, the sale of tuberculous animals for breeding purposes; but public opinion is ripe, especially in our urban districts, for something being done in order to restrict the spread of the disease. At the Veterinary Congress at the Hague last September, a motion was carried that the manufacture, distribution, and control of tuberculin should be confined to the various Governments, and that it should only be supplied to medical men and veterinary surgeons. Were it only supplied to those who undertook to give a complete return of the tests made with it the Government would soon become conversant with the prevalence and incidence of the disease.

Some affirm that such a thing could not be done in this country, that were such a law enacted, it would be continually evaded. Of that I am not convinced. If it were as sharply looked after by our excise officials as, say saccharine, and a suitable penalty, with exposure, attached, there would be few attempts at contravention.

The Duty of the Veterinarian.

There is no doubt that the most obvious duty of our profession at the present time is to do what we can to educate the rural districts, the small farmer and breeder, to show him the desirability, nay even the necessity of trying to do something to help himself—to protect his animals from the ravages of this fell disease. In some of our remote country districts there are still farms on which tuberculosis does not exist, and the farmers are but too often ignorant of their fortunate position. It lies more with the veterinary surgeon than with any one else to educate them, to instruct them regarding the risk they run in introducing new animals to their herds; to let them know that there are simple means available by which they can protect themselves, and the eternal regret which will follow should they introduce an animal which may actively propagate the disease. We all know of instances where a single animal has contaminated a herd, and of herds which could no longer be kept—which had to be dispersed; of that each of us knows more than he has any right to tell. But it is all the more our duty to instruct our agricultural friends regarding the importance of the position, to persuade them to help themselves, and to be prepared to give a cordial welcome to any State effort that may be made to control the disease, and not to sit down and wait, like the children of destiny, for the Government to step in, take over, and pay full compensation for each animal affected with tuberculosis. No Government can legislate in advance of public opinion, and our duty is to educate, educate, educate.

Let us hope that something will be attempted again soon, that the present patch-work method of dealing with the disease will be given up for something general, something national, and that the Government will not much longer be content to go on nibbling at the fringes of this vast economic and public health question.

The President said they had had great pleasure in listening to a most able and interesting address, the best he had ever heard as a member of that Association; he wished to thank Prof. Dewar for having given them such an exhaustive and lucid treatise on such an important subject, he regretted that the time at their disposal was so short, Prof. Dewar having to catch an early train, he did not propose to offer any criticism on the paper, but would be pleased to hear the views of others present.

Mr. G. Elphick said there was one subject he was rather disappointed Prof. Dewar had not touched upon, the insanitary condition under which most of the bovine species, especially dairy animals and breeding stock, were kept. There was room for enormous improvement in buildings where animals were bred and reared, most of these places were hotbeds of disease. It had often struck him that before compensation was paid out of the national exchequer, the landlords of all these cow byres should be compelled within a certain time to have them put in a thoroughly sanitary condition.

Mr. Chivas and Mr. Parker also spoke on the importance of the hygienic aspect of the case.

Mr. Craik said he had been in contact with pedigree herds that were full of this disease and he thought there would be very great difficulty in this country of ever eradicating it. He believed that so long as we allowed the foreigner to take our best pedigree stock away from this country subject to the test and to leave the reacters, that we were predisposing our home stock to tuberculosis.

Mr. Dudgeon said we always find that whatever legislation was proposed for the benefit of the farmers was the legislation which was most opposed by the farmers.

Prof. Dewar regretted that the time at their disposal was so limited. It was his opinion that the disease could be eradicated. The Argentine Government had just been on the point of excluding every animal from Great Britain on account of tuberculosis. They were keeping them in quarantine at their own expense until their own veterinary surgeons could make sure they were not tuberculous. That was what our breeders had brought us to; that our pure bred herds were stinking in the nostrils of the civilised world. Tuberculin, if they knew how to use it and were allowed their own way of using it, was an absolute diagnosticator.

Prof. Dewar was accorded a hearty vote of thanks for his address.

Mr. Chivas showed an interesting specimen—the larynx of a mare which had to be destroyed. Post-mortem showed a large fibrous tumour, which completely occluded the air passage.

A vote of thanks to the Chairman concluded a most enjoyable meeting.

T. T. Jack, Hon. Sec.

The Price of Horse Meat.

In the House of Commons, the Chancellor of the Exchequer, in reply to Sir C. Hunter, said: According to returns furnished to the Board of Trade, the average retail price in this country of foreign frozen meat of good quality, such as is largely eaten by the poorer classes, ranges from 4d. to 6d. per lb. The retail price of horseflesh in Germany varies greatly in different localities and according to cut, but the report of the investigation conducted by the Board of Trade in 1905 shows that prices ranging from 4½d. to 6½ per lb., or even higher, were frequently paid.

Mr. J. F. Hope (Sheffield, Central): Is the right hon. gentleman aware that at Chemnitz, which is a town where horseflesh is more consumed than any part of Germany, the burgomaster and other authorities entirely repudiate his figures?

The Chancellor of the Exchequer: No; the hon. member is perfectly wrong. He did not repudiate the figures with regard to horseflesh in the municipal slaughter-houses.

DISEASES OF ANIMALS ACTS 1894 TO 1903, SUMMARY OF RETURNS.

Period	Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Counties Affected	Sheep Scab.	Swine Fever.	
	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Animals Attacked	Out-breaks	Out-breaks.	Slaugh-tered *
GT. BRITAIN. Week ended Mar. 26	40	70			10	23	Kent 1	10	16	116
Corresponding week in 1909 ...	26	40			16	76		14	33	332
Corresponding week in 1908 ...	31	38			13	62	London 18	17	34	261
Corresponding week in 1907 ...	22	26			17	40		14	43	393
Total for 13 weeks, 1910	410	512			96	262	Middlesex 1 Ayr 2	282	297	2210
Corresponding period in 1909 ...	359	518			147	522		370	366	3202
Corresponding period in 1908 ...	321	441	3	112	212	723	Lanark 1	571	398	1906
Corresponding period in 1907 ...	255	327			242	552		345	475	2470

Board of Agriculture and Fisheries, March 29, 1910. Parasitic Mange (outbreaks)

IRELAND. Week ended Mar. 19	...	...	...	...	...	...	...	13	1	42
Corresponding Week in 1909 ...	...	...	...	...	...	...	1	8	...	...
Corresponding Week in 1908 ...	1	4	...	...	...	...	1	11	3	92
Corresponding Week in 1907 ...	...	...	...	...	...	...	1	3	2	22
Total for 12 weeks, 1910 ...	4	6	...	...	...	...	22	242	11	296
Corresponding period in 1909 ...	1	1	...	...	...	...	28	197	8	71
Corresponding period in 1908 ...	3	6	...	...	...	...	12	218	35	855
Corresponding period in 1907 ...	...	...	...	...	...	...	29	126	39	600

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, 23 March, 1910

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

THE STREPTOTRICHOSES AND TUBERCULOSIS.

Abstract from the second of the Milroy Lectures, delivered before the Royal College of Physicians of London, on Feb. 17th, 22nd, and 24th, 1910, by ALEXANDER G. R. FOULERTON, F.R.C.S., ENG., D.P.H. CAMB., Lecturer on Bacteriology and Public Health to the Middlesex Hospital School, and County Medical Officer of Health for East Sussex.

STREPTOTRICHEÆ PATHOGENIC FOR MAN.

It may be stated that, contrary to what was believed formerly, the ray fungus of Bollinger (*St. bovis communis*) is, relatively to other species, an uncommon cause of human infection. A few well authenticated instances of its occurrence in man have been recorded since the study of the streptotrichoses has been placed on an exact basis; but the records of others and our own investigations at the Middlesex Hospital suggest that this species is not, at any rate, a frequent cause of disease in man. In the course of our own investigation of 53 cases of streptotrichosis in man six distinct species of parasites have been identified. In one case it was easy to identify the streptothrix described by Eppinger; and from other cases we have isolated five distinct species which we have not been able to identify positively with previously described parasites. One of these five species, *St. luteola*, has sufficiently definite biological characteristics and does not correspond with any other named species. Of the remaining four organisms described provisionally as *St. hominis* I., II., III., and IV., Species III. and IV. are freely growing streptotricheæ, with well-marked biological characteristics, whilst Species I. and II. are organisms which yield a rather scanty growth on artificial media, but which, because of the scantiness of their growth, cannot be positively identified at present with apparently closely similar species isolated and described by others.

THE GENERAL BIOLOGICAL CHARACTERISTICS OF THE PATHOGENIC STREPTOTRICHEÆ.

Because of want of knowledge of many details necessary for the proper identification of some of the organisms which have been described by pathologists, any attempt to classify, or even roughly group, the pathogenic streptotricheæ is attended by some difficulty. I have, however, attempted to subdivide these parasites roughly in accordance with certain broad cultural characteristics.

The first group includes a number of species which grow freely under artificial conditions at temperatures between 20°C. and 37°C., and which conform generally to the cultural type of the first group of saprophytic species already referred to. In this group may be placed the original ray fungus of Bollinger (*St. bovis communis*) and the closely allied, or identical species described by Rivolta under the name of *Actinomyces bovis sulphureus* as infecting the ox, and by Affanassiew and others as occurring occasionally in cases of human infection. To this group also belong the three species which I have described as *St. luteola* and *St. hominis* III. and IV., together with certain freely growing species described by Garten, Hesse, and others. The general morphology of this group is typical of the genus, and no difficulty in identification of the nature of the parasites is likely to arise. Most of the species liquefy gelatin, some

liquefy inspissated blood serum, and some exercise an active hydrolytic action on starch. Some of these species give off in growth a pronounced "mouldy" smell; with others a faint feculent smell is noticeable with broth cultures, as happens also with some members of the third group. Pigment formation is not uncommon; and sporulation is frequently accompanied by a somewhat coarse kind of efflorescence on the surface of the growth. It may be added that *St. hominis* III., isolated from three cases of appendicitis, and *St. hominis* IV., isolated from a case of renal streptotrichosis which was probably secondary to a lung infection, are freely growing organisms which liquefy gelatin and generally resemble *St. bovis communis*. The two species are readily distinguished from each other, however, in culture. Species III. yields a faintly yellowish growth on nutrient agar, a brownish growth on potato, and liquefies serum slowly. Species IV. yields a greyish, gradually darkening, growth on nutrient agar, a black growth on potato, and does not liquefy inspissated blood serum.

The second group includes species which in their cultural characteristics conform generally with the second type of saprophytic organisms. Some of these organisms yield on artificial media a somewhat heaped-up, mealy-looking growth which may resemble exactly the growth of Koch's bacillus. The group includes *St. nocardii*, *St. eppingeri*, *St. capræ*, the streptothrix described by Sabrazès and Rivière, and the two distinct species described by Vincent and Freer as the cause of madura foot in India and in the Philippine Islands respectively. All the above species have been examined in my laboratory. Vincent's *St. maduræ* apparently never shows any acid-fast properties; Freer's streptothrix is said to be an acid-fast species, but I have not yet succeeded in satisfying myself on this point; and all the remaining species develop acid-fast rod-segments in old cultures. The streptothrix of leprosy, which Deycke has recently isolated, is also strongly acid-fast both in cultures on artificial media and when under parasitic conditions. The cultural characters of an acid-fast streptothrix isolated by Scheele and Petruschky from the case of a woman, aged 56 years, who died with a pulmonary infection and numerous subcutaneous abscesses, have not been described fully, but it seems probable that the species belongs to this group. Morphology in this group is as clearly characteristic of the genus as it is with species of the former group; speaking generally, however, the mycelial threads are finer, and usually lateral branching is somewhat less frequent in this group than in the other. Sporulation does not cause the coarse or chalky efflorescence seen in the other group, but with spore formation the surface of the growth usually assumes a fine, dry, powdery appearance. Some of the species form pigment, but this property is rather variable. Most of the species yield good growth on potato, inspissated blood serum is not liquefied, and there is no marked smell from cultures on artificial media. The pathogenic action of species of this group is usually well marked for the guinea-pig and rabbit, resulting sometimes in an infection characterized by widely disseminated tubercular lesions.

The third group includes a type of organism which appears to be common in human infections, and which was referred to earlier as the class of organism with regard to which difficulties in identification are likely to arise. The type is difficult of growth on artificial media, its pathogenic action for laboratory animals is usually uncertain and of low degree, and it is impossible to say how many distinct species it includes. Of all the ordinary culture media peptone broth seems the best suited for the growth of these parasites; growth appears between the third and seventh days of incubation at a temperature of 37° C., and is represented either by a filmy-looking mass of very small white colonies at the bottom of the broth or by small isolated colonies which adhere to the side of the tube in which they are growing, the organism in the latter case sometimes showing a curious preference for growth up one side of the tube. In one or two instances a faint feculent smell has been detected in broth cultures of these organisms, whilst pus containing the organism in pure culture has had a strong smell of the same kind. These colonies, which never attain to a size larger than that of a small pin-head, show on examination a typical streptothrix organism. In some cases growth is not to be obtained on any other artificial medium. Growth on nutrient agar, when it occurs, is very slow; small, whitish, dry-looking, heaped-up colonies, of a friable consistence, appear on the medium after about five to eight days' incubation at 37° C., and remain of limited extent. On examination of these colonies the growth appears to consist almost exclusively of beaded, rod-segments, and careful search may be required for the detection of definite lateral branching. When growth occurs on nutrient agar it usually occurs also on inspissated horse or ox serum, and in that case is slow in progress and always scanty. After a time there is some "pitting" of the serum on which the small whitish colonies are implanted, suggestive of a feeble peptonising action. Growth does not usually occur on nutrient gelatin incubated at 22° C.; but, in spite of no growth occurring, some liquefaction has been observed at times of the gelatin surface over which pus containing organisms of this type has been smeared—an indication of the secretion of a peptonising ferment by the parasite. From cases in which growth has been obtained on at least three different media—peptone broth, nutrient agar, and inspissated serum—I have been able to isolate what are believed to be two distinct species of this type, *St. hominus* I and II. Streptothrix I, isolated from two cases of pulmonary streptotrichosis and from four cases of infection of parts about the mouth and neck, yields a very scanty, whitish friable growth on solid media, which much resembles, except that it is scanty in comparison, the growth of Koch's bacillus. This species has a low degree of pathogenicity for ordinary laboratory animals, inoculation tests, either with the original pus or with pure cultures, usually failing. Streptothrix II, isolated from a single case of acute abscess of the tongue, yields a whitish growth of similar appearance, but developing with rather more freedom. In broth cultures of this organism "clubbing" of the ends of the mycelial side branches is common and the entire tufts of mycelium are liable to become encrusted with a hard, gritty, calcareous kind of material. The second of these species is actively pathogenic for the guinea-pig and rabbit, causing on intraperitoneal injection a fatal peritonitis. In neither species has any development of acid-fast rod-segments been observed.

From one other case of pulmonary streptotrichosis, and from five cases of infection of parts about the mouth or in the neck, small whitish colonies of a fine streptothrix organism, so far resembling Species I and II, were obtained in broth cultures, but attempts to obtain cultures on solid media failed.

Streptotrichoses caused by parasites conforming more or less closely with the special type of this group have been described by several pathologists; in none of the cases has the presence of acid-fast rod-segments been observed. The organism (*St. equi*) which Dean isolated from a submaxillary abscess in a horse appears, from the description given, to be one which would come within this group; intraperitoneal injection of this organism produced in rabbits a definite tuberculous infection of the peritoneum.

THE GENERAL PATHOLOGY OF THE STREPTOTRICHOSES.

It will be convenient to consider the general pathology of the streptotrichoses in connection with a series of 53 cases from which material has been examined in my laboratories, the series including 39 cases which have been referred to previously in an article on the Pathology of Streptothrix Infections in Allbutt and Rolleston's "System of Medicine." The series does not include any cases which would generally be recognised as cases of tuberculosis, and in every case a diagnosis has been established either by isolation and culture of the parasite or by the identification microscopically of definite branching mycelial masses or threads of a declared streptothrix type and staining by Gram's method.

Of the 53 patients, 48 of which were of the ordinary hospital class and 5 private patients, 32 were male and 21 female. This preponderance of males corresponds with what has been found in larger series of collected cases. Thus amongst 101 cases in which the sex was known, out of 109 cases published in the United Kingdom from 1884 to 1906 and collected by Acland, there were 65 males and 36 females; and amongst 405 cases, collected by Leith, in which the sex was known there were 295 males and 110 females.

The influence of occupation and other circumstances involving special exposure to the possibility of infection from a vegetable source is noticeable in this series. In 10 (8 males and 2 females) of the 53 cases the occupation was not ascertained; of the remaining 43 persons, 14 (4 males and 10 females) either had no special occupation or were engaged in ordinary housework, and 29 belonged to the "occupied" classes; of these 29, 2 (a medical man and a woman student of medicine) belonged to the professional classes, and 27 (19 males and 8 females) following definite trades belonged to the working classes.

Of the 27 persons belonging to the working classes 19 (13 males and 6 females) followed trades in which they would be specially exposed to any infection which might have its source of origin in vegetable matter. Thus there were amongst them 5 men employed in stable work and handling hay and straw constantly; of these, 1 had a primary pulmonary streptotrichosis and died with a secondary abscess in the cerebrum, another was admitted into hospital with a streptotrichial empyema secondary to a lung infection, 2 had abscesses in the submaxillary region, and 1 had an abscess in the substance of the cheek. A patient with a streptotrichial appendicitis was a cellarman who was constantly handling the straw casings of wine bottles, and who happened also to live over some stables. Two of the patients were bakers, one with a subperiosteal abscess of the lower jaw, and one with a right iliac abscess which presumably was secondary to an appendicitis. Two of the patients were gardeners, both with abscesses in the submaxillary region. Two other patients who occupations would expose them to the risk of infection of this kind were a dairymaid, who suffered from a submaxillary abscess, and a man with a streptotrichial appendicitis who had been employed for many years in a large timber yard.

Finally, amongst these 19 workers, who by reason of their occupation, might be supposed to be specially liable to infection of this kind, there was a group of 7, including 2 working tailors, 3 working tailoresses, and 2 working dressmakers, who would be in the habit of passing cotton and thread between their lips. Of these the two tailors each had a submaxillary abscess; the three tailoresses suffered respectively from a pulmonary streptotrichosis, an acute parotid abscess, and a submaxillary abscess; one dressmaker died with thrombosis of the superior mesenteric, splenic, and portal veins resulting from a streptotrichial appendicitis, and the other had a submaxillary abscess. The remaining 8 of the working classes (6 males and 2 females) followed as many different trades, in none of which could any probable cause of any special liability to exposure to infection be traced. In two other cases—one that of a woman medical student who died with extensive retroperitoneal suppuration following on a streptotrichial appendicitis, the second that of a young male of no special occupation who died with infection of the lungs, liver, and cerebrum—there were circumstances of interest in connection with the probable source of infection. The woman had spent a long holiday in the country ending three months before the onset of symptoms of appendicitis, and whilst away had been in the frequent habit of chewing ears of growing barley and oats as she walked through the fields. The male patient died within four months of leaving a farm on which he had spent several weeks during convalescence after scarlet fever.

(To be continued.)

Hydrophobia in London.

On Saturday, March 26, Dr. W. Wynn Westcott held an inquest at the Hackney Coroner's Court, on the body of George Edgar Seaman, aged 24, an ex-soldier of the Norfolk Regiment, lately living at Trelawney Road, Hackney, who died from hydrophobia.

Mrs. May Barker said the deceased was her son by a former marriage. He was stationed in Gibralter, and she heard that he and another man had been bitten while in the streets by a mad dog. They were both sent to the Pasteur Institute, in Paris. That was in September. He came home, and no symptoms of hydrophobia displayed themselves until March 19, when he said he did not feel well. He complained of pain in the elbow of the arm that was bitten. The pain spread to the shoulder, and then to the back of the neck.

The Coroner: Some people say that you never do have hydrophobia, but that you worry yourself into imagining it. Of course, that is very absurd. A death from hydrophobia is a most rare thing indeed in England since the passing of that very wise Act of Parliament, the Muzzling Act, which stamped out rabies. This case should act as a warning to people to make sure that a dog that shows the slightest symptoms of madness should be kept under control. At Gibralter dogs are allowed to wander about at will, and here is a case where two men are killed.

The witness went on to say that on Monday the deceased's condition became very desperate, he being violent, and on Tuesday he could not swallow, and said he was going mad. At six o'clock he became so bad that a constable was sent for to restrain him, and he was then removed to the Hackney Infirmary.

A letter was produced which the deceased wrote to his mother at the time he and his comrade were bitten, in which he stated, "You say you have heard I am lying seriously ill in Paris, suffering from hydrophobia, but you have made a mistake; it is my mate; he is now dead."

Police-constable Walter Nicks said he was called to the house, and the deceased told him of the bite he and the other man had had in September, and said he believed he was going mad also. He asked to be taken somewhere at once, and witness walked him through the streets to the Hackney Infirmary. He said he felt better after the walk. There was no order for his admission, but directly the facts were told to the authorities a bed was provided.

Dr. John Joseph Gordon, medical superintendent of the infirmary, stated that the young man was very violent when he was admitted. He was a man of splendid physique, and complained of having to die so young from the bite of a dog. He had entered for the City Police, and had been medically examined and passed. After

his admission to the hospital witness decided that the best thing to do would be to give him a hot bath. He was put into the bath, but jumped out like a cat. He ordered his attendant to put him in again, but again he jumped out, and sat on the edge of the bath and cried. He was suffering from a frightful thirst, and witness gave him a glass of water. He had no sooner got the glass into his hand than he had a terrible spasm of the muscles, and jumped into the air. From that time onward the mention of water was sufficient to give him other spasms, the same as a slight draught under the door. Witness heard that he had been treated at the Pasteur Institute, but there was a delay in getting him there, as the North German Lloyd Steamship Company refused to take him, and he had to wait for the Peninsular and Oriental. Witness was deeply grieved at the poor fellow's agonies. Deceased cried like a child because Dr. Cowell, his assistant, would not cut his throat and end his sufferings. He said he could not breathe. Eventually the poor man's agonies became so terrible that they had to inject morphia to quieten him. He died at 4.30 in the morning, after an awful night's suffering. Witness had made a post-mortem, but found nothing except a little inflammation of the brain and kidneys. From the symptoms he concluded deceased died from hydrophobia.

The Coroner: It is a terrible sight to see a man suffering from hydrophobia. I remember one in my medical student days, and the sight will never be effaced from my memory. In olden times it is said that they used to put them under a feather bed and smother them, but nowadays a doctor must not do anything wilfully to injure anyone.

The jury returned a verdict of death from hydrophobia.—*Standard.*

More "Roaring" Mystery.

As promised by me last week, says the "Sportsman" Special Commissioner, I motored down to see Mr. John Coleman, the eminent veterinary surgeon, at Epsom, for he has recently been curing rank roarers, and that is a point of almost phenomenal importance. Think, for example, what would have happened had Mr. Coleman been able to operate on Prince Charlie and Ormonde? Yet, there I saw John M.P., who since his export to America became a rank roarer, and also three weight-carriers from the shires, all of whom had gone wrong in the wind, and the process to which Mr. Coleman had subjected the lot of them had been completely successful. The four animals in question were cantered the best part of a mile before me yesterday, and not one made any noise. The three hunters were going back perfectly sound on the following day.

Now this opens up an extraordinary vista, and Mr. Coleman, who, with Mr. Hobday, has been making these experiments, has much to say, and very justifiably.

He does not claim for a moment to have got hold of some trick unknown to the rest of the veterinary profession. On the other hand, he suggests that the so-called trick is a simple one, only it requires about three skilled men to carry it out successfully. Roughly speaking, as we all know, the left half of the larynx collapses and causes roaring horses, but the new operation is one which by cutting about—I will not say how—brings the left half of the larynx to its normal place.

I have no desire to discuss these highly technical details, but it would be foolish in the extreme not to refer instantly to this new cure for roaring. It is no simple matter. So much we already know; and Mr. Coleman has set apart an entire establishment for the treatment of roarers. They are clear of all possible contagion, which of course, is of vital importance when animals are to be subjected to a most serious operation in their throats. Up to now all has gone well, and I saw quite a number which had been operated on only a fortnight ago, and in these cases the wound had not yet closed, but in the case of John M.P., whose legs are now his only trouble, it would need the most skilled professor to discover that his throat had ever been opened up.

The Training of Veterinarians.

Replying to the toast "Our Guests" at the Annual Dinner at Liverpool, of the Meat Trades Federation:

Sir Rubert Boyce said he recognised old comrades at that meeting, and he had listened with great interest to what had been said. Mr. Stephenson had given them the watchword, "Watch the cattle." He agreed with him. Colonel Chaloner gave them the watchword, "Watch the food-stuffs." He agreed with him also. His watchword was, "Watch the man," and he coupled with it the other two. They all wanted watching. (Laughter.) He would like to point out to them how they could do it. True, they could not all be Levers—(laughter),—but they could be givers. With regard to the embargo on cattle, it meant, simply want of knowledge. They had not half enough veterinary men in this country. Fifty years ago they paid attention to the training of medical men; it was time they now paid attention to their veterinary men (Hear, hear). Their veterinary school was the first to be attached to a University in this country, and Mr. Walter Long was the leading spirit in helping to get that measure through the House of Commons. Now they had Colonel Challoner with them to help them get something else through, and that was the corner-stone of their veterinary edifice. He appealed to them to help in bringing about a Chair of Veterinary Anatomy in our University for the training of veterinary surgeons who would take the place of medical men. If they could help to have veterinary inspectors taught all over the country, then they would have accomplished something.—*M.T.J.*

Personal.

ROBERTS—ARNALL.—On the 29th March, at St. Petroc's Church, Bodmin, by the Rev. Hugh King (Vicar), assisted by the Rev. G. P. C. Sutton, of Port Isaac, Broch Retallick, only son of the late Arthur R. Roberts and Mrs. Roberts, of Crouch End, London, to Ethel Mary, elder daughter of the late George Arnall, M.R.C.V.S., and Mrs. Arnall, of Bodmin.

At the recent Pytchley Hunt Point-to-Point Steeplechases, held at Isoldenby, Northants, on 24th March, C. W. Townsend's brown gelding, Bobs (owner) carrying 12st. 7lb. won the Northants' Yeomanry Race by three lengths, from four others.—*Northants' Chronicle.*

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,
WAR OFFICE, WHITEHALL, Mar. 29.

ARMY VETERINARY CORPS.

Capt. F. W. Hunt to be Major. Dated March 20.

Capt. H. C. Welch, from the Seconded List, is restored to the establishment. Dated March 27.

OBITUARY.

GEORGE W. CHATER, M.R.C.V.S., Buntingford, Herts. Graduated, Edin: Dec., 1894.

Mr. Chater died on March 28. Aged 41 years.

JOHN HERBERT CALLOW, M.R.C.V.S., Horsham, Sussex. Lond: Jan., 1878.

Mr. Callow died on Jan. 18, at Carfax, Horsham, from chronic nephritis, at the age of 53 years.

ACTION FOR LOSS OF A HORSE AT COLWYN BAY.—VETERINARY EVIDENCE.

Sir,

With reference to the extraordinary case reported under the above heading in your issue of March 26 (p. 638), it would be interesting to know whether the Council of the R.C.V.S., in the exercise of their duty as guardians of the credit and good name of the profession, intend to call on Messrs. O. T. Williams, Rowlands, and Thomas for some explanation of the incredibly contradictory evidence given by these gentlemen in the report referred to.

Turning to the veterinary evidence, we find that one professional witness asserted that the horse had a ruptured heart, that the lungs were highly congested, and that there was no displacement of the neck, whilst two other professional witnesses, who were apparently also present at the same post-mortem examination, affirmed that the horse had not a ruptured heart, that the organs were all normal, and that the cause of death was dislocation of the neck!

Now, assuming that these witnesses possess, as veterinary surgeons, at least some rudimentary knowledge of equine anatomy, it is quite inconceivable that there could be any *bona fide* difference of opinion or mistake in such a matter, and the only possible inference is that one or more of the three gentlemen in question must have ignored the facts.

This, when giving professional evidence in a court of law is scarcely a creditable state of things, and might amount to "conduct disgraceful in a professional respect." Another alternative lies in the hypothesis that there are members of the profession so hopelessly incompetent as to be unable to recognise the grossest and most palpable anatomical abnormalities. If this be the case, such members are unworthy to be described as veterinary surgeons, and are obviously unfitted to practise their profession.

There is yet a third alternative, and this we must all hope is a true one; that is, that the veterinary evidence has been misconstrued and inaccurately reported. No doubt, however, the three gentlemen concerned can, and will, for the good of their own name and of the profession generally, afford some explanation.

The veterinary evidence, as it reads in the report referred to, can produce but one effect on the mind of the general public, and that effect is ridicule. It simply makes a laughing-stock of the whole profession. In fact, my reason for this letter arises from the unpleasantly sarcastic remarks addressed to me and my profession by a lay friend who, glancing through the pages of *The Veterinary Record*, happened unfortunately to read the report in question. His remark was—"Either you vets. must be the most consummate perjurers born, or else you are a lot of ignorant quacks and charlatans, entirely devoid of the knowledge and skill that you claim to possess."

I enclose my name and address, and although I prefer to appear in print *incognito*, I nevertheless have no objection whatever to my identity being personally disclosed to anyone who may desire it.—Yours, etc.,

F.R.C.V.S.

RE CAUSTIC CLAMS.

Sir,

I should just like to ask "M.R.C.V.S." if he has ever castrated a colt? also why ashamed of his name? I have castrated colts for the past forty years with actual cautery, ecraseur, and caustic clams; during that period have only had one case of schirrous cord, and that after operating with the iron. I should like to answer "M.R.C.V.S." questions.

1. He ought to know that the object of using caustic is to stop hæmorrhage. When he says the caustic is only applied ¼in. up the cord and does not touch the end, this only shows how little the writer knows of his subject.
2. The cord is never cut level with the clams.
3. Caustic is aseptic.
4. No practical man would attempt to operate on a colt standing suffering from scrotal hernia.

Now as to pain, the question asked by "M.R.C.V.S." is a foolish one, as everybody knows that there is a much larger space in a colt than a man. I should like to ask which causes the more pain, to be burned with an iron or to have some caustic applied? Why, undoubtedly the former. I am convinced "M.R.C.V.S." is very short of experience, and I should like to ask him when and where he examined so many horses suffering from scrotal unsoundness. I think "M.R.C.V.S." would be afraid to castrate a horse standing and would prefer the more old fashioned method of having them cast.—Yours truly,

ARTHUR HOLL.

New Buckenham.

UNION OF VETERINARY ASSOCIATIONS.

Sir,

Mr. James McKenny has expressed his belief that I am the author of the letters signed "Vis unita fortior." I am not the author of the letters in question. I first saw them in type. Mr. McKenny's opinion, however, has not caused me surprise, for presumably it is based on certain correspondence which passed between the Secretary of the V.M.A.I. and myself.—Yours truly,

A. GOTTON.

Edinburgh, March 26.

ROARING AND PROFESSORS.

Sir,

I have noticed the letters on the above. It is all very well for Mr. Hobday to call them scurrilous attacks, but that does not explain the matter. There was a similar article in *The Field* about the same time. I don't know who wrote the letters, but should like to see Mr. Hobday's explanation. Perhaps he would also tell us what post he held at the R.V.C. and for how long, and why it entitled him to the title of Professor? The men who are on the teaching staff at any of our large hospitals do not style themselves professors—why those at the R.V.C.?

JAS. BLAKEWAY, SENR.,
Specialist in the Castration of Rig Horses.

Stourbridge.

LEGITIMATE ADVERTISING.

Sir,

"Pro Bono Publico" asks me to explain what is a legitimate advertisement. My definition is—anything that tends to make known the utility of the veterinary profession. Under this heading I should certainly class notices in the lay press of successful veterinary research. We are very properly debarred from offering our services to the public by paid advertisements, as by doing so we should be placing ourselves in the same plane as butchers, bakers and other worthy tradespeople, but it is absurd to go to the other extreme and discourage all mention of the profession and its work.

We are not veterinary surgeons for the benefit of our health, we seek to make a living, the majority of us make a bare one only. We are small, do not let us be narrow-minded also. If we are never heard of we shall seldom be wanted. We are elbowed out of appointments that are clearly marked out for us, when we do get them we are underpaid. Are we always to be content with a back seat? Other professions push and assert themselves, why should not we?

Should the day ever come when our leading men are as well known as the leading physicians and surgeons, then we shall be in a better position than we are now.

As a first step I should like to see the Royal College move into a handsome building in a good street, its President presented at Court, his portrait painted in oils and exhibited at the Royal Academy. It would be quite legitimate, and I think necessary. Perhaps if we pay our annual guinea it may come to pass.—Yours faithfully,

THE COLONEL.

[This discussion rather misses the mark first aimed at. Being presented at Court or exhibited at the Royal Academy or housed in a palace are not quite things on a level with hints and puffs in the sporting press. The cutting we

publish this week on Roaring can not well be defended if the gentlemen mentioned prompted it If they did not, courtesy to the profession requires a denial.—ED.]

Sir,

Although a layman I am the son of a M.R.C.V.S. and ask the right to be allowed to reply to a lettter appearing in your issue of the 19th inst. signed "Unity is Strength the II," as the card referred to was sent out by me in answer to an enquiry regarding the terms for boarding dogs in these kennels: these cards are sent out to avoid unnecessary clerical work and always in reply to enquirers and not as circulars.

Had "Unity is Strength the II." signed his name—the least he could do when inferring ill practice against a fellow practitioner of whose ability and success he is evidently envious—I should know if he obtained the card direct from me or second-hand: if by the latter means then I contend he peruses matter not intended for him, as the letter was addressed to my correspondent simply in the nature of correspondence between two parties and not for the benefit of the public generally.

Mr. Hobday and I purchased these kennels about two years ago; they were then and are still boarding and show kennels, and Mr. Hobday requiring kennels for quarantine dogs we increased the accommodation, and he of course has the quarantine portion under his supervision, whereas the remainder he has practically nothing to do with. The scale of charges is for boarding healthy dogs *only*, as I take in no sick cases, and it is only fair to Mr. Hobday to say, that although I have asked him more than once to put his plate up here, he has refused to do so, giving as his reason that most of the Veterinary Surgeons in the neighbourhood are personal friends of his, and he did not desire to interfere with them in any way.—I am Sir, yours obediently,

H. ERNEST DYER.

Sir,

Once more the old question of professional advertising seems to be rankling in the breasts of those gentlemen who delight to "bark and bite" through the medium of *The Record*. Of course the letter *re* Roaring, which is the cause of this correspondence is not professionally legitimate; and yet on the other hand can one blame anybody who wants to make a living, (all do, but don't like to admit it), for advertising in the only way which is open to them. 'Advertising is essential for progress' says one authority, and it is true without doubt, for where would any large business firm, such as Messrs. Cadbury's or even patent medicine firms, be without advertisement.

When a man makes a special preparation or keeps a forge he must not advertise it in the local paper because he is a veterinary surgeon, and if he did so he would be hauled up before all-wise council and severely dealt with. On the other hand, a veterinary surgeon is allowed to puff himself up, or get somebody else to (of course then he knows nothing about it) about performing a new operation, which would give the layman the impression that nobody else had ever heard of it.

Which of the two is the more business-like? For after all veterinary practice is a business, even when worked by the most professional man. One is a *bona-fide* announcement of which no one need be ashamed, and the other is, to say the least of it, an underhanded and round-about method of bringing oneself before the public eye.

If something could be done to exterminate those gentry who are pleased to call themselves veterinary correspondents to agricultural papers, who, together with quack medicine vendors, are ruining country practice, it would be better for all concerned. Why not be allowed to fight the quack medicine man with his own weapons, *i.e.* advertisement. Why should not the practitioner let it be known that he also sells medicine, as well as the quack?

The Council could do more good by dealing with these points and by more clearly defining what advertising is, and what is not, than by harrassing struggling country "vets," who happen to overstep the very ill-defined line of professional etiquette in this respect.—Yours truly,

PROFESSIONAL ADVERTISER.

PRESS NOTICES.

Sir,

Evidently by his reply Mr. Fred. Hobday takes my remarks on this subject as applying to himself. If he favours this view, he is, so far as I am concerned, quite welcome to it.

In the abstract I agree absolutely with the sentiments he expresses, but in the concrete I cannot admit his statements to be an answer to my letter, which he appears to have evaded by imputing motives.

I am, however, very sorry that he considers himself to be an injured individual. But does he do the question justice by taking the view that I am wasting my energy in attacking what I believe to be a breach of the unwritten principles of professional ethics that would not be tolerated wittingly by any of those learned professions that he would have me imitate.

He infers that my (and other writers') attitude and effusions are done out of spite or through petty jealousy. He, in fact, accuses me and my contemporaries of being cowardly, un-British-like, unsportsmanlike, seeking base, selfish ends, and lacking *esprit de corps*. But is his attitude consistent with the facts put forward from time to time in the veterinary journals?

Are we going to do work in this world and solve many problems awaiting us if we permit some of our number to allow themselves or their doings to be constantly or intermittently puffed, advertised, or praised in the public press, etc.?

I am willing, however, to say with Lord Bacon that: "To praise a man's self cannot be decent, except it be in rare cases; but to praise a man's office or profession, he may do it with good grace, and with a kind of magnanimity." Again, are we individually and collectively going to elevate ourselves materially by allowing the issuing of cards having on them such notorious fees as 4d. a day for a cat and from 5d. to 1/- a day for dogs from the size of a rat to that of a donkey?

When one read in *The Record* the abstract headed "Roaring or Whispering" taken from *The Sportsman*, one thought at first that it concerned a new operation for roaring for which only Mr. Hobday held the secret. But now, thanks to the concise and lucid paper on the subject read by that honest and modest young professor, Mr. Harold Woodruffe, and appearing in last week's *Record*, we know it to be an operation performed as far back as 1845 by the Messieurs Günther, senior and junior, of Hanover, and before the majority of us were conceived.

If any of your readers have an inclination to play with the press I would recommend to their notice the following abstract from a lecture delivered by the eminent Reguis Professor of Medicine at Oxford University—Dr. Osler, who says: "In the life of every successful physician there comes the temptation to toy with the Delilah of the press—daily and otherwise. There are times when she may be courted with satisfaction, but beware! Sooner or later she is sure to play the harlot, and has left many a man shorn of his strength, viz., the confidence of his professional brethren."

UNITY IS STRENGTH THE II.

NOTES ON SOUTH AFRICAN PLANTS POISONOUS TO STOCK, with particulars of Symptoms and Treatment, by H. L. WALSH. 54 pp. + 7 p. adverts., with 16 half-tone Illustrations. Paper, stitched. T. Maskew Miller, Cape Town: Lennon Ltd., 54-58 Queen Elizabeth St, Tower Bridge, London, S.E.

THE REPRESENTATIVE, Vol. I. No. 2. Royal Dick College.

The R.S.P.C.A. and the Decrepit Horse Traffic to the Continent.

COMMUNICATIONS AND PAPERS RECEIVED:—Messrs. J. G. Kitchin, T. Jack, E. Wallis Hoare, Jas. Blakeway, Senr; H. B. Eve, E. A. Ryan. Prof. Delépine. "The Colonel," "Another M.R.C.V.S." F.R.C.V.S.

The Carlisle Journal, The Harrow Observer, The Armagh Guardian.

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